# INDEX TO VOLUME 38


A

Page

bsorption losses of a photographic lens, compensation of aperture ratio markings, RP1803 ... 643
eid-base titrations in nonpolar media, RP1794 ... 527
gree, S. F., Arthur A. Maryott, Dipole moments and resonance of some benzein indicators and related compounds, RP1791 ... 505
ircraft exhaust coatings, RP1773 ... 293
r flow along a flat plate, RP1772 ... 251
liphatic hydrocarbons, preparation and properties, RP1779 ... 365
lylates, analysis, RP1795 ... 537
lkylcyclohexanes, purification, purity, and freezing points, RP1760 ... 53
lkycyclopentanes, purification, purity, and freezing points, RP1760 ... 53
luminum alloy, effect of aging on some properties, RP1788 ... 465
luminum oxide, heat capacity, RP1797 ... 593
merican Petroleum Institute-National Bureau of Standards hydrocarbons, RP1760 ... 53
nnealing of glass, changes in refractivity and density, RP1793 ... 519
perture ratio markings of a photographic lens, compensation for absorption, reflection, and vignetting losses, RP1803 ... 643
rgon and krypton, infrared emission spectra, RP1790 ... 499
romatic hydrocarbons, purification, purity, and freezing points, RP1760 ... 53
viation fuel components, analysis, RP1795 ... 537

B

*alcom, Margaret M., Kasson S. Gibson*, Transmission measurements with the Beckman quartz spectrophotometer, RP1798 ... 601
arium-strontium titanate dielectrics, properties, RP1776 ... 337
eckman spectrophotometer, performance, RP1798 ... 601
*ekkedahl, Norman, Waldemar Saffioti*, Mangabeira latex and rubber, RP1785 ... 427
enzein indicators, dipole mements and resonance, RP1791 ... 505
enzene and dioxane, conductimetric titrations of acids and bases in, RP1794 ... 527
enzene hydrocarbons, purification, purity, and freezing points, RP1760 ... 53
eta-ray spectra of cobalts, RP1778 ... 359
*radt, Paul, A. Keith Brewer, Samuel L. Madorsky, John Keenan Taylor, Vernon H. Dibeler, O. Lee Parham, Roy J. Britten, J. Gilman Reid, Jr.*, Concentration of isotopes of potassium by the countercurrent electromigration method, RP1765 ... 137
*rewer, A. Keith, Samuel L. Madorsky*, Concentration of the isotopes of mercury by free evaporation in a 10-cell countercurrent reflux still, RP1764 ... 129
*. Samuel L. Madorsky, John Keenan Taylor, Vernon H. Dibeler, Paul Bradt, O. Lee Parham, Roy J. Britten, J. Gilman Reid, Jr.*, Concentration of isotopes of potassium by the countercurrent electromigration method, RP1765 ... 137
rick, refractory, creep and elastic behavior, RP1770 ... 229
*ritten, Roy J., A. Keith Brewer, Samuel L. Madorsky, John Keenan Taylor, Vernon H. Dibeler, Paul Bradt, O. L. Parham, J. Gilman Reid, Jr.*, Concentration of isotopes of potassium by the countercurrent electromigration method, RP1765 ... 137
*rooks, Donald B., Frank L. Howard, Thomas W. Mears, A. Fookson, Philip Pomerantz*, Preparation and physical properties of several aliphatic hydrocarbons and intermediates, RP1779 ... 365
unsen ice calorimeter, RP1796 ... 583
utene, heat capacities, RP1804 ... 651
utenes, vibrational frequencies, RP1768 ... 191
*uting, Elmer N., George R. Shelton, Ansel S. Creamer*, Properties of barium-strontium titanate dielectrics, RP1776 ... 337
utylbenzenes, purification, purity, and freezing points, RP1760 ... 53

C

Page

*Cahill, Janice C., Anton J. Streiff, Evelyn T. Murphy, Helen F. Flanagan, Vincent A. Sedlak, Charles B. Willingham, Frederick D. Rossini*, Purification, purity, and freezing points of 8 nonanes, 11 alkylcyclopentanes, 6 alkylcyclohexanes, and 4 butylbenzenes of the American Petroleum Institute-Standard and American Petroleum Institute-National Bureau of Standards series, RP1760 ... 53
Calorimeter, Bunsen ice, RP1796 ... 583
Calorimetry of gases, RP1804 ... 651
Carbon monoxide, analysis of, RP1777 ... 351
Cement, portland, spectrographic analysis, RP1786 ... 439
Ceramic coatings for high temperature protection of steel, RP1773 ... 293
*Cheney, Ruth K., Paul F. Wacker, Russell B. Scott*, Heat capacities of gaseous oxygen, isobutane, and 1-butene from −30° to +90° C, RP1804 ... 651
Chlorine isotopes, concentration by the countercurrent electromigration method, RP1767 ... 185
Coatings for steel at high temperatures, RP1773 ... 293
Compensation of the aperture ratio markings of a photographic lens for absorption, reflection, and vignetting losses, RP1803 ... 643
Concentration of isotopes of potassium by countercurrent electromigration.
RP1765 ... 137
RP1766 ... 169
*Cooter, Irvin L., Chauncey G. Peters, Walter B. Emerson, Karl Neffen, Frank K. Harris*, Electrical methods for diamond-die production, RP1787 ... 449
Corrosion of aluminum alloy, RP1788 ... 465
*Corruccini, Robert J., Defoe C. Ginnings*, An improved ice calorimeter—the determination of its calibration factor and the density of ice at 0° C, RP1796 ... 583
—, —, Enthalpy, specific heat, and entropy of aluminum oxide from 0° to 900° C, RP1797 ... 593
Corundum, heat capacity, RP1797 ... 593
*Creamer, Ansel S., Elmer N. Bunting, George R. Shelton*, Properties of barium-strontium titanate dielectrics, RP1776 ... 337
Creep, tensile and compressive, of refractory bricks, RP1770 ... 229
Cryoscopic constants of hydrocarbons, RP1760 ... 53
Crystal units, quartz, electrical characteristics, RP1774 ... 309
*Curtiss, Leon F., Leonard C. Miller*, A magnetic-lens electron spectrometer: Radiations from 5.3 year cobalt $^{60}$, RP1778 ... 359
—, *Irving Feister*, Disintegration of scandium $^{46}$, RP1781 ... 411
Cyclohexanes, infrared absorption spectra, RP1769 ... 211
Cycloparaffin hydrocarbons, purification, purity, and freezing points, RP1760 ... 53
Cyclopentanes, infrared absorption of, RP1769 ... 211

D

*Davis, Francis J.*, An improved Geiger-counter arrangement for determination of radium content, RP1792 ... 513
*Day, Frank H., George Singer, Harold O. Wyckoff*, Relative thickness of lead, concrete, and steel required for protection against narrow beams of X-rays, RP1806 ... 665
Diamond-die production, electrical methods, RP1787 ... 449
*Dibeler, Vernon H., A. Keith Brewer, Samuel L. Madorsky, John Keenan Taylor, Paul Bradt, O. Lee Parham, Roy J. Britten, J. Gilman Reid, Jr.*, Concentration of isotopes of potassium by the countercurrent electromigration method, RP1765 ... 137
—, *Fred L. Mohler, Robert M. Reese*, Mass spectrometer study of rare gases, RP1799 ... 617
—, Ionization and dissociation of *cis*- and *trans*-2-butene by electron impact, RP1775 ... 329
Dicalcium silicate, crystal structure, RP1782 ... 415

Page

Die, diamond, electrical methods for production, RP1787 ..... 449
Dielectrics properties of barium-strontium titanate, RP1776 ..... 337
Difructose anhydride II, structure, RP1784 ..... 423
Dimethylcyclohexanes, heat of combustion and isomerization, RP1783 ..... 419
2 2-Dimethylhexane in petroleum, RP1800 ..... 621
Dipole moments of benzein indicators, RP1791 ..... 505

E

Elastic behavior of refractory bricks, RP1770 ..... 229
Electrical characteristics of quartz-crystal units, RP1774 ..... 309
Electrical methods for diamond-die production, RP1787 ..... 449
Electromigration method for the concentration of isotopes:
RP1765 ..... 137
RP1766 ..... 169
RP1767 ..... 185
Electron spectrometer, magnetic-lens, RP1778 ..... 359
*Emerson, Walter B., Chauncey G. Peters, Karl Nefflen, Frank K. Harris, Irvin L. Cooter*, Electrical methods for diamond-die production, RP1787 ..... 449
Ethylbenzene, vibrational frequencies, RP1758 ..... 1
Ethylcyclohexane, heat of combustion, RP1783 ..... 419
Ethylcyclopentane in petroleum, RP1800 ..... 621
Ethylene, vibrational frequencies, RP1758 ..... 191
Expansion, thermal, of barium-strontium titanate, RP1776 ..... 337

F

Fabrics, water-repellent, RP1762 ..... 103
*Faick, Conrad A., Ralph Stair*, Infrared absorption of some experimental glasses containing rare earth and other oxides, RP1761 ..... 95
Freezing points, purification, and purity of 8 nonanes, 11 alkylcyclopentanes, 6 alkylcyclohexanes, and 4 butylbenzenes of American Petroleum Institute-National Bureau of Standards series, RP1760 ..... 53
*Feister, Irving, Leon F. Curtiss*, Disintegration of scandium 46, RP1781 ..... 411
Ferrite, heats of solution, RP1805 ..... 661
Firebrick, creep and elastic behavior, RP1770 ..... 229
*Flanagan, Helen F., Anton J. Streiff, Evelyn T. Murphy, Janice C. Cahill, Vincent A. Sedlak, Charles B. Willingham, Frederick D. Rossini*, Purification, purity, and freezing points of 8 nonanes, 11 alkylcyclopentanes, 6 alkylcyclohexanes, and 4 butylbenzenes of the American Petroleum Institute-Standard and American Petroleum Institute-National Bureau of Standards series, RP1760 ..... 53
*Fookson, A., Frank L. Howard, Thomas W. Mears, Philip Pomerantz, Donald B. Brooks*, Preparation and physical properties of several aliphatic hydrocarbons and intermediates, RP1779 ..... 365
*Francis, Harold E., Hugh L. Logan, Harold Hessing*, Effect of artificial aging on tensile properties and resistance to corrosion of the 24S–T aluminum alloy, RP1788 ..... 465
Frequency-modulation demodulator, synchronized oscillator as a, RP1780 ..... 397
Furnace for X-ray diffraction at elevated temperatures, RP1782 ..... 415

G

*Gagliardi, Domenick, John W. Rowen*, Properties of water-repellent fabrics, RP1762 ..... 103
*Gardner, Irvine C.*, Compensation of the aperture ratio markings of a photographic lens for absorption, reflection, and vignetting losses, RP1803 ..... 643
Gases, heat capacities and P–V–T data, RP1804 ..... 651
Gases, rare, mass spectrometer study, RP1799 ..... 617
Gas, natural, analysis:
RP1759 ..... 19
RP1789 ..... 491
Geiger-counter, determination of radium content, RP1792 ..... 513
*George, William D., Myron C. Selby, Reuben Scalnik*, Electrical characteristics of quartz-crystal units and their measurement, RP1774 ..... 309
*Gibson, Kasson S., Margaret M. Balcom*, Transmission measurements with the Beckman quartz spectrophotometer, RP1798 ..... 601
*Glennings, Dejoe C., Robert J. Corruccini*, An improved ice calorimeter—the determination of its calibration factor and the density of ice at 0° C, RP1796 ..... 583
—, —, Enthalpy, specific heat, and entropy of aluminum oxide from 0° to 900° C, RP1797 ..... 593
*Glasgow, Augustus R., Jr., Anton J. Streiff, Charles B. Willingham, Frederick D. Rossini*, Analyses of alkylates and hydrocodimers, RP1795 ..... 537
*Glasgow, Augustus R., Jr., Charles B. Willingham, Frederick D. Rossini*, Hydrocarbons in the 102° to 108° C fraction of petroleum, RP1800 ..... 621
Glass, changes in refractivity and density caused by annealing, RP1793 ..... 519
Glass in portland cement clinker, estimation, RP1805 ..... 661
Glass, optical, surface tensions, RP1771 ..... 241

H

*Harris, Forest K., Chauncey G. Peters, Walter B. Emerson, Karl Nefflen, Irvin L. Cooter*, Electrical method for diamond-die production, RP1787 ..... 449
*Harrison, William N., Dwight G. Moore, Joseph C. Richmond*, Ceramic coatings for high-temperature protection of steel, RP1773 ..... 291
Heat capacity of aluminum oxide, RP1797 ..... 593
Heat capacity of gases, RP1804 ..... 651
Heats of combustion and solution of styrene and polystyrene, RP1801 ..... 627
Heats of polymerization of styrene, RP1801 ..... 627
Heats of combustion and isomerization of six nonanes, RP1783 ..... 419
*Heltz, Armin W., Bourdon F. Scribner*, Spectrographic determination of minor elements in portland cement, RP1786 ..... 439
*Hessing, Harold, Hugh L. Logan, Harold E. Francis*, Effect of artificial aging on the tensile properties and resistance to corrosion of the 24S–T aluminum alloy, RP1788 ..... 465
Hide, adsorption of water vapor, RP1763 ..... 119
High-temperature X-ray diffraction apparatus, RP1782 ..... 415
*Howard, Frank L., Thomas W. Mears, A. Fookson, Philip Pomerantz, Donald B. Brooks*, Preparation and physical properties of several aliphatic hydrocarbons and intermediates, RP1779 ..... 365
*Humphreys, Curtis J., Earle K. Plyler*, Infrared emission of spectra of krypton and argon, RP1790 ..... 499
—, —, *Ralph Stair*, Infrared absorption spectra of twelve cyclopentanes and five cyclohexanes, RP1769 ..... 211
*Huntoon, Robert D., Albert Weiss*, Synchronization of oscillators, RP1780 ..... 397
Hydrocarbons, aliphatic, preparation and properties, RP1779 ..... 365
Hydrocarbons, infrared absorption spectra, RP1769 ..... 211
Hydrocarbons in alkylates and hydrocodimers, RP1795 ..... 537
Hydrocarbons in petroleum, RP1800 ..... 621
Hydrocodimers, analysis, RP1795 ..... 537

I

Ice, density at 0° C, RP1796 ..... 583
Infrared absorption spectra of some hydrocarbons, RP1769 ..... 211
Infrared absorption spectra of rare-earth oxide glasses, RP1761 ..... 95
Infrared emission spectra of krypton and argon, RP1790 ..... 499
Inulin, difructoses prepared from, RP1784 ..... 423
Ionization of *cis*- and *trans*-2-butene, RP1775 ..... 325
Isobutane, heat capacities, RP1804 ..... 651
Isotopes, concentration of potassium:
RP1765 ..... 137
RP1766 ..... 169
Isotopes of chlorine, concentration by the countercurrent electromigration method, RP1767 ..... 185
Isotopes of mercury, concentration by free evaporation, RP1764 ..... 125
Isotopes, theoretical aspects of the electromigration method for concentrating, RP1766 ..... 169

J

*Jessup, Ralph S., Donald E. Roberts, William W. Walton*, Heats of combustion and solution of liquid styrene and solid polystyrene, and the heat of polymerization of styrene, RP1801 ..... 627
*Johnson, Walter H., Edward J. Prosen, Frederick D. Rossini*, Heats of combustion and isomerization of six nonanes, RP1783 ..... 419

K

*Kanagy, Joseph R.*, Adsorption of water vapor by untanned hide and various leathers at 100° F, RP1763 ..... 119
*Kilpatrick, John E., Kenneth S. Pitzer*, Normal coordinate analysis of the vibrational frequencies of ethylene, propylene, *cis*-2-butene, *trans*-2-butene, and isobutene, RP1768 ..... 183
Kinetic-energy matrix, calculation, RP1758 ..... 1
Krypton and argon, infrared emission spectra, RP1790 ..... 499

L

Page

Laminar boundary layer flow, RP1772 ... 251
Latex, Mangabeira, RP1785 ... 427
Leather, adsorption of water vapor, RP1767 ... 119
Lens, compensation for absorption, reflection, and vignetting losses by aperture ratio markings, RP1803 ... 643
*Logan, Hugh L., Harold Hessing, Harold E. Francis*, Effect of artificial aging on the tensile properties and resistance to corrosion of the 248–T aluminum alloy, RP1788 ... 465

M

*Madorsky, Samuel L., A. Keith Brewer*, Concentration of the isotopes of mercury by free evaporation in a 10-cell countercurrent reflux still, RP1764 ... 129
—, —, *John Keenan Taylor, Vernon H. Dibeler, Paul Bradt, O. Lee Parham, Roy J. Britten, J. Gilman Reid, Jr.*, Concentration of isotopes of potassium by the countercurrent electromigration method, RP1765 ... 137
—, *Sidney Straus*, Concentration of isotopes of chlorine by the countercurrent electromigration method, RP1767 ... 185
Magnetic-lens electron spectrometer, RP1778 ... 359
Mangabeira latex and rubber, RP1785 ... 427
*Maryott, Arthur A.*, Conductimetric titrations of acids and bases in benzene and dioxane, RP1794 ... 527
—, *S. Acree*, Dipole moments and resonance of some benzein indicators and related compounds, RP1791 ... 505
Mass spectrometer analysis of standard natural gas sample, RP1789 ... 491
Mass spectrometer study of rare gases, RP1799 ... 617
Mass spectrometric analysis:
RP1765 ... 137
RP1767 ... 185
Mass spectrometric analysis of potassium isotopes abundance ratio, RP1765 ... 137
*McDonald, Emma J., Anne L. Turcotte*, Structure of difructose anhydride II, RP1784 ... 423
*McMurdie, Howard F., Alvin Van Valkenburg, Jr.*, High-temperature X-ray diffraction apparatus, RP1782 ... 415
*Mears, Thomas W., Frank L. Howard, A. Fookson, Philip Pomerantz, Donald D. Brooks*, Preparation and physical properties of several aliphatic hydrocarbons and intermediates, RP1779 ... 365
Mercury isotopes, concentration by free evaporation, RP1764 ... 129
*Miller, Leonard C., Leon F. Curtiss*, A magnetic-lens electron spectrometer: Radiations from 5.3 year cobalt,[60] RP1778 ... 359
*Mohler, Fred L., Vernon H. Dibeler, Robert M. Reese*, Mass spectrometer study of rare gases, RP1799 ... 617
*Mong, Lewis E.*, Elastic behavior and creep of refractory bricks under tensile and compressive loads, RP1770 ... 229
*Moore, Dwight G., William N. Harrison, Joseph C. Richmond*, Ceramic coatings for high-temperature protection of steel, RP1773 ... 293
*Murphy, Evelyn T., Anton J. Streiff, Janice C. Cahill, Helen F. Flanagan, Vincent A. Sedlak, Charles B. Willingham, Frederick D. Rossini*, Purification, purity, and freezing points of 8 nonanes, 11 alkylcyclopentanes, 6 alkylcyclohexanes, and 4 butylbenzenes of the American Petroleum Institute-Standard and American Petroleum Institute-National Bureau of Standards series, RP1760 ... 53

N

Natural gas, analysis:
RP1759 ... 19
RP1789 ... 491
*Neffen, Karl, Chauncey G. Peters, Walter B. Emerson, Forest K. Harris, Irvin L. Cooter*, Electrical methods for diamond-die production, RP1787 ... 449
*Newman, Edwin S.*, Heats of solution of solid solutions of hexacalcium dialumino ferrite and dicalcium ferrite, RP1805 ... 661
Nonanes, purification, purity, and freezing points, RP1760 ... 53
Normal coordinate analysis of olefins, RP1768 ... 191
Nuclear energy levels of cobalt, RP1778 ... 359
Nuclear energy levels of scandium[46], RP1781 ... 411

O

Olefins, vibrational frequencies, RP1768 ... 191
Optical glass, surface tensions, RP1771 ... 241
Oscillations in laminar boundary layers, RP1772 ... 251
Oscillators, synchronization of, RP1780 ... 397
Oxygen, heat capacities, RP1804 ... 651

P

Page

Paraffin hydrocarbons, purification, purity, and freezing points, RP1760 ... 53
*Parham, O. Lee, A. Keith Brewer, Samuel L. Madorsky, John Keenan Taylor, Vernon H. Dibeler, Paul Bradt, Roy J. Britten, J. Gilman Reid, Jr.*, Concentration of isotopes of potassium by the countercurrent electromigration method, RP1765 ... 137
*Peters, Chauncey G., Walter B. Emerson, Karl Neffen, Frank K. Harris, Irvin L. Cooter*, Electrical methods for diamond-die production, RP1787 ... 449
Petroleum, hydrocarbons in, RP1800 ... 621
Photographic lens, compensation of the aperture ratio markings for absorption, reflection, and vignetting losses, RP1803 ... 643
*Pitzer, Kenneth S., John E. Kilpatrick*, Normal coordinate analysis of the vibrational frequencies of ethylene, propylene, *cis*-2-butene, *trans*-2-butene, and isobutene, RP1768 ... 191
—, *William J. Taylor*, The vibrational frequencies of semirigid molecules: A general method and values for ethylbenzene, RP1758 ... 1
*Plyler, Earle K., Curtis J. Humphreys*, Infrared emission of spectra of krypton and argon, RP1790 ... 499
—, *Ralph Stair, Curtis J. Humphreys*, Infrared absorption spectra of seven cyclopentanes and five cyclohexanes, RP1769 ... 211
Polystyrene and styrene, heats of combustion and solution, RP1801 ... 627
*Pomerantz, Philip, Frank L. Howard, Thomas W. Mears, A. Fookson, Donald D. Brooks*, Preparation and physical properties of several aliphatic hydrocarbons and intermediates, RP1779 ... 365
Portland cement clinker, estimation of glass in, RP1805 ... 661
Portland cement, spectrographic analysis, RP1786 ... 439
Potassium isotopes, concentration:
RP1765 ... 137
RP1766 ... 169
Potentials, critical of *cis*- and *trans*-2-butene, RP1775 ... 329
Propylene, vibrational frequencies, RP1768 ... 191
*Prosen, Edward J., Walter H. Johnson, Frederick D. Rossini*, Heats of combustion and isomerization of six nonanes, RP1783 ... 419
Purification and purity of hydrocarbons, RP1760 ... 53

Q

Quartz-crystal units, electrical measurements, RP1774 ... 309

R

Radium content, determination, RP1792 ... 513
Rare-earth oxide glasses, infrared absorption, RP1761 ... 95
*Reese, Robert M., Vernon H. Dibeler, Fred L. Mohler*, Mass spectrometer study of rare gases, RP1799 ... 617
Reflection losses of a photographic lens, compensation by aperture ratio markings, RP1803 ... 643
Reflux control for electromigration cells, RP1765 ... 137
Refractivity of glass, changes caused by annealing, RP1793 ... 519
Refractory bricks, creep and elastic behavior, RP1770 ... 229
*Reid, J. Gilman, Jr., A. Keith Brewer, Samuel L. Madorsky, John Keenan Taylor, Vernon H. Dodr, Paul Bradt, O. Lee Parham, Roy J. Britten*, Concentration of isotopes of potassium by the countercurrent electromigration method, RP1765 ... 137
Resonance in benzein indicators, RP1791 ... 505
*Richmond, Joseph C., William N. Harrison, Dwight G. Moore*, Ceramic coatings for high-temperature protection of steel, RP1773 ... 293
*Rirlin, Ronald S.*, Torsion of a rubber cylinder, RP1802 ... 637
*Roberts, Donald E., William W. Walton, Ralph S. Jessup*, Heats of combustion and solution of liquid styrene and solid polystyrene and the heat of polymerization of styrene, RP1801 ... 627
*Rossini, Frederick D., Anton J. Streiff, Evelyn T. Murphy Janice C. Cahill, Helen F. Flanagan, Vincent A. Sedlak, Charles B. Willingham*, Purification, purity, and freezing points of 8 nonanes, 11 alkylcyclopentanes, 6 alkycyclohexanes, and 4 butylbenzenes of the American Petroleum Institute-Standard and American Petroleum Institute-National Bureau of Standards series, RP1760 ... 53
—, *Augustus R. Glasgow, Jr., Anton J. Streiff, Charles B. Willingham*, Analysis of alkylates and hydrocodimers, RP1795 ... 537
—, —, *Charles B. Willingham*, Hydrocarbons in the 102° to 108° C fraction of petroleum, RP1800 ... 621
—, *Walter H. Johnson, Edward J. Prosen*, Heats of combustion and isomerization of six nonanes, RP1783 ... 419

Page

*Bowen, John W., Domenick Gagliardi*, Properties of water-repellent fabrics, RP1762 ..... 103
Rubber cylinder, torsion of, RP1802 ..... 637
Rubber, Mangabeira, RP1785 ..... 427

S

*Saffioti, Waldemar, Norman Bekkedahl*, Mangabeira latex and rubber, RP1785 ..... 427
Sapphire, heat capacity, RP1797 ..... 593
*Saunders, James B., Arthur Q. Tool, Leroy W. Tilton*, Changes caused in the refractivity and density of glass by annealing, RP1793 ..... 519
*Schubauer, Galen B., Harold K. Skramstad*, Laminar boundary-layer oscillations and transition on a flat plate, RP1772 ..... 251
*Scolnik, Reuben, William D. George, Myron C. Selby*, Electrical characteristics of quartz-crystal units and their measurement, RP1774 ..... 309
*Scott, Russell B., Paul F. Wacker, Ruth K. Cheney*, Heat capacities of gaseous oxygen, isobutane, and 1-butene from −30° to +90° C, RP1804 ..... 651
*Scribner, Bourdon F., Armin W. Helz*, Spectrographic determination of minor elements in portland cement, RP1786 ..... 439
*Sedlak, Vincent A., Anton J. Streiff, Evelyn T. Murphy, Janice C. Cahill, Helen F. Flanagan, Charles B. Willingham, and Frederick D. Rossini*, Purification, purity, and freezing points of 8 nonanes, 11 alkylcyclopentanes, 6 alkylcyclohexanes, and 4 butylbenzenes of the American Petroleum Institute-Standard and American Petroleum Institute-National Bureau of Standards series, RP1760 ..... 53
*Selby, Myron C., William D. George, Reuben Scolnik*, Electrical characteristics of quartz-crystal units and their measurements, RP1774 ..... 309
*Shartsis, Leo, Alden W. Smock*, Surface tensions of some optical glasses, RP1771 ..... 241
*Shelton, George R., Elmer N. Bunting, Ansel S. Creamer*, Properties of barium-strontium titanate dielectrics, RP1776 ..... 337
*Shepherd, Martin*, Analysis of a standard sample of natural gas by laboratories cooperating with the American Society for testing materials, RP1759 ..... 19
—, Cooperative analysis of a standard sample of natural gas with the mass spectrometer, RP1789 ..... 491
—, Determination of small amounts of carbon monoxide in air by various reference methods, RP1777 ..... 351
*Singer, George, Harold O. Wyckoff, Frank H. Day*, Relative thickness of lead, concrete, and steel required for protection against narrow beams of X-rays, RP1806 ..... 665
*Skramstad, Harold K., Galen B. Schubauer*, Laminar boundary-layer oscillations and transition on a flat plate, RP1772 ..... 251
*Smock, Alden W., Leo Shartsis*, Surface tensions of some optical glasses, RP1771 ..... 241
Specific heat of aluminum oxide, RP1797 ..... 593
Spectra, beta and gamma ray, of scandium $^{46}$, RP1781 ..... 411
Spectra, infrared absorption, of hydrocarbons, RP1769 ..... 211
Spectra, mass, of *cis*- and *trans*-2-butene, RP1775 ..... 329
Spectra of noble gases, RP1790 ..... 499
Spectrographic analysis of portland cement, RP1786 ..... 439
Spectrophotometer, Beckman, performance, RP1798 ..... 601
*Stair, Ralph, Conrad A. Faick*, Infrared absorption of some experimental glasses containing rare earth and other oxides, RP1761 ..... 95
—, *Earle K. Plyler, Curtis J. Humphreys*, Infrared absorption spectra of seven cyclopentanes and five cyclohexanes, RP1769 ..... 211
Steel, high-temperature protective coatings, RP1773 ..... 293
*Straus, Sidney, Samuel L. Madorsky*, Concentration of isotopes of chlorine by the countercurrent electromigration method, RP1767 ..... 185
*Streiff, Anton J., Augustus R. Glasgow, Jr., Charles B. Willingham, Frederick D. Rossini*, Analyses of alkylates and hydrocodimers, RP1795 ..... 537
—, *Evelyn T. Murphy, Janice C. Cahill, Helen F. Flanagan, Vincent A. Sedlak, Charles B. Willingham, Frederick D. Rossini*, Purification, purity, and freezing points of 8 nonanes, 11 alkylcyclopentanes, 6 alkylcyclohexanes, and 4 butylbenzenes of the American Petroleum Institute-Standard and American Petroleum Institute-National Bureau of Standards series, RP1760 ..... 53
Stress-corrosion tests of aluminum alloy, RP1788 ..... 465
Surface tension of some optical glasses, RP1771 ..... 241

T

*Taylor, John Keenan, A. Keith Brewer, Samuel L. Madorsky, Vernon H. Dibeler, Paul Bradt, O. Lee Parham, Roy J. Britten, J. Gilman Reid, Jr.*, Concentration of isotopes of potassium by the countercurrent electromigration method, RP1765 ..... 137
*Taylor, William J., Kenneth S. Pitzer*, Vibrational frequencies of semi-rigid molecules: A general method and values for ethylbenzene, RP1758 ..... 1
Tensile properties of aluminum alloy, RP1788 ..... 465
Thermal expansion for barium-strontium titanate, RP1776 ..... 337
*Tilton, Leroy W., Arthur Q. Tool, James B. Saunders*, Changes caused in the refractivity and density of glass by annealing, RP1793 ..... 519
Torsion of a rubber cylinder, RP1802 ..... 637
Transmission measurements on Beckman spectrophotometer, RP1798 ..... 601
1,1,3-Trimethylcyclopentane in petroleum, RP1800 ..... 621
Turbulence, boundary layer, production of, RP1772 ..... 251
*Turcotte, Anne L., Emma J. McDonald*, Structures of difructose anhydride II, RP1784 ..... 423

V

*Van Valkenburg, Alvin, Jr., Howard F. McMurdie*, High-temperature X-ray diffraction apparatus, RP1782 ..... 415
Vibrational frequencies of molecules:
RP1758 ..... 1
RP1768 ..... 191
Vignetting losses of a photographic lens, compensation by aperature ratio markings, RP1803 ..... 643
Voltmeter, synchronized oscillator as a, RP1780 ..... 397

W

*Wacker, Paul F., Ruth K. Cheney, Russell B. Scott*, Heat capacities of gaseous oxygen, isobutane, and 1-butene from −30° to +90° C, RP1804 ..... 651
*Walton, William W., Donald E. Roberts, Ralph S. Jessup*, Heats of combustion and solution of liquid styrene and solid polystyrene, and the heat of polymerization of styrene, RP1801 ..... 627
Water repellency of fabrics, RP1762 ..... 103
Water vapor adsorption of leather, RP1763 ..... 119
*Weiss, Albert, Robert D. Huntoon*, Synchronization of oscillators, RP1780 ..... 397
*Westhaver, James W.*, Concentration of potassium $^{39}$ by countercurrent electromigration: Some theoretical aspects of the operation, RP1766 ..... 169
*Willingham, Charles B., Anton J. Streiff, Evelyn T. Murphy, Janice C. Cahill, Helen F. Flanagan, Vincent A. Sedlak, Frederick D. Rossini*, Purification, purity, and freezing points of 8 nonanes, 11 alkylcyclopentanes, 6 alkylcyclohexanes, and 4 butylbenzenes of the American Petroleum Institute-Standard and American Petroleum Institute-National Bureau of Standards series, RP1760 ..... 53
—, *Augustus R. Glasgow, Jr., Anton J. Streiff, Frederick D. Rossini*, Analysis of alkylates and hydrocodimers, RP1795 ..... 537
—, —, *Frederick D. Rossini*, Hydrocarbons in the 102° to 108° C fraction of petroleum, RP1800 ..... 621
*Wyckoff, Harold O., George Singer, Frank H. Day*, Relative thickness of lead, concrete, and steel required for protection against narrow beams of X-rays, RP1806 ..... 665

X

X-ray diffraction at elevated temperatures, RP1782 ..... 415
X-ray protection, thickness of lead, concrete, and steel required, RP1806 ..... 665